# Unit 2 Foundation

# Last-minute Revision List

This is a list of the topics you might want to look at over the final few days before the exam.

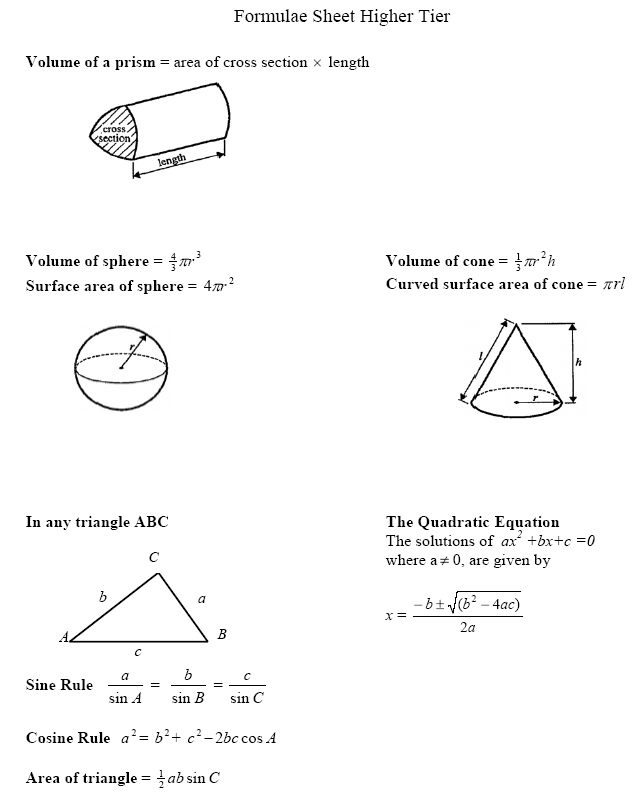
**THIS IS A SUGGESTION OF WHAT MIGHT COME IN UNIT 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Topic** | **Subtopics** | | |
|  | PERCENTAGES | Increase/decrease | Compound interest | |
|  | RATIO & Proportion | Sharing quantities |  |  |
|  | STRAIGHT LINES | Parallel lines |  |  |
|  | ANGLES | Parallel lines | Interior/exterior in polygons | |
|  | PYTHAGORAS THEOREM | 2-dimensions |  | |  |
|  | SIMILAR SHAPES | Length/Area/Volume |  |  |
|  | CIRCLES | Circumference | Area |  |
|  | 3D VOLUME | Cylinders |  | |  |

**ANSWERS ON THE WIKISPACE**

**And Google drive:**

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**1.** A concert ticket costs £45 plus a booking charge of 15%.

**Percentages**

Work out the total cost of a concert ticket.

£ .................................

(Total 3 marks)

**2.** The normal cost of a coat is £94  
In a sale the cost of the coat is reduced by 36%

Work out 36% of £94

£ …………………..

(Total 2 marks)

**3.** A coin is made from copper and nickel.  
84% of its weight is copper.  
16% of its weight is nickel.

Find the ratio of the weight of copper to the weight of nickel.  
Give your ratio in its simplest form.

.........................

(Total 2 marks)

**4.** Work out the **simple** interest on £530 at 4.5% per annum after 3 years.

£ …………………………

(Total 3 marks)

**5.** Henry invests £4500 at a compound interest rate of 5% per annum.

At the end of *n* complete years the investment has grown to £5469.78.

Find the value of *n*.

……………………

(Total 2 marks)

**6.** James invested £2000 for three years in an Internet Savings Account.  
He is paid 5.5% per annum **compound** interest.

Work out the **total interest** earned after three years.

£ .................................

(Total 3 marks)

**7.** Gwen bought a new car.  
Each year, the value of her car depreciated by 9%.

Calculate the number of years after which the value of her car was 47% of its value when new.

......................................

(Total 3 marks)

**8.** In a sale, normal prices are reduced by 25%.  
The sale price of a saw is £12.75

Calculate the normal price of the saw.

£ .....................................

(Total 3 marks)

**9.** In a sale, normal prices are reduced by 12%.  
The sale price of a DVD player is £242.

Work out the normal price of the DVD player.

£ …………………………

(Total 3 marks)

**1.** Verity and Jean share £126 in the ratio 5 : 3  
Work out how much money Verity receives.

**Ratio & Proportion**

£ ……………………………

(Total 2 marks)

**2.** A shop sells CDs and DVDs.  
In one week the number of CDs sold and the number of DVDs sold were in the ratio 3:5  
The total number of CDs and DVDs sold in the week was 728

Work out the number of CDs sold.

.................................

(Total 2 marks)

**3.** Ann and Bob shared £240 in the ratio 3 : 5

Ann gave a **half** of her share to Colin.  
Bob gave a **tenth** of his share to Colin.

What fraction of the £240 did Colin receive?

.

....................................

(Total 4 marks)

**4.** Amy, Beth and Colin share 36 sweets in the ratio 2 : 3 : 4

Work out the number of sweets that each of them receives.

Amy………….sweets

Beth………….sweets

Colin…………..sweets

(Total 3 marks)

**5.** Derek, Erica and Fred share £108 in the ratio 3:4:2

Calculate the amount of money Erica gets.

£……………………………

(Total 3 marks)

**6.** Jim makes a model of his school.

He uses a scale of 1 : 50

The area of the door on his model is 8 cm2.

Work out the area of the door on the real school.

.....................................cm2

(Total 2 marks)

**1.**

**Angles in parallel lines and polygons**



Calculate the size of the exterior angle of a regular hexagon.

...................................

(Total 2 marks)

**2.** Here is a regular polygon with 9 sides.

Diagram **NOT** accurately drawn

Work out the size of an exterior angle.

……………………….°

(Total 2 marks)

**3.** The size of each exterior angle of a regular polygon is 40°.

Work out the number of sides of the regular polygon.

.....................................

(Total 2 marks)

**4.**



*DE* is parallel to *FG.*  
Find the size of the angle marked *y*°.

..........................°

(Total 1 mark)

**5.**   


*BEG* and *CFG* are straight lines.  
*ABC* is parallel to *DEF.*  
Angle *ABE* = 48°.  
Angle *BCF* = 30°.

(a) (i) Write down the size of the angle marked *x.*

*x* = ...................

(ii) Give a reason for your answer.

............................................................................................

(2)

(b) (i) Write down the size of the angle marked *y*.

*y* = ...................

(ii) Give a reason for your answer.

............................................................................................

(2)

(Total 4 marks)

**1.**

**Pythagoras theorem**



*XYZ* is a right-angled triangle.  
*XY* = 3.2 cm.  
*XZ* = 1.7 cm.

Calculate the length of *YZ*.  
Give your answer correct to 3 significant figures.

…………………………. cm

(Total 3 marks)

**2.**

 Diagram **NOT** accurately drawn

*ABC* is a right-angled triangle.

*AC* = 6 cm.  
*BC* = 9 cm.

Work out the length of *AB*.  
Give your answer correct to 3 significant figures.

............................. cm

(Total 3 marks)

**3.**   
 

*ABCD* is a rectangle.  
*AC* = 17 cm.  
*AD* = 10 cm.

Calculate the length of the side *CD*.  
Give your answer correct to one decimal place.

................................... cm

(Total 3 marks)

(Total 6 marks)

**1.** Shapes *ABCD* and *EFGH* are mathematically similar.

**Similar shapes including length, area, and volume scale factors**



(a) Calculate the length of *BC*.

........................... cm

(2)

(b) Calculate the length of *EF*.

........................... cm

(2)

(Total 4 marks)

**2.**



Cylinder **A** and cylinder **B** are mathematically similar.  
The length of cylinder **A** is 4 cm and the length of cylinder **B** is 6 cm.  
The volume of cylinder **A** is 80 cm3.

Calculate the volume of cylinder **B**.

………………………… cm3

(Total 3 marks)

**4.**



Two cones, **P** and **Q**, are mathematically similar.  
The total surface area of cone **P** is 24 cm2.  
The total surface area of cone **Q** is 96 cm2.  
The height of cone **P** is 4 cm.

(a) Work out the height of cone **Q***.*

...................................... cm

(3)

The volume of cone **P** is 12 cm3.

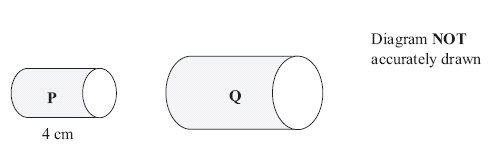
(b) Work out the volume of cone **Q**.

..................................... cm3

(2)

(Total 5 marks)

**5.**



Two cylinders, **P** and **Q**, are mathematically similar.

The total surface area of cylinder **P** is 90** cm2.

The total surface area of cylinder **Q** is 810** cm2.

The length of cylinder **P** is 4 cm.

(a) Work out the length of cylinder **Q**.

…………… cm

(3)

**1.** A 10 pence coin is made from copper and nickel.  
The ratio of the weight of copper to the weight of nickel is 18:6

**Circles**

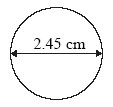
(a) Write the ratio 18:6 in its simplest form

…………………….

(1)

The diameter of the 10 pence coin is 2.45 cm.

(b) Work out the circumference of the coin.  
Give your answer correct to 1 decimal place.



…………………cm

(2)

(Total 3 marks)

**2.** 

The diagram shows a semi-circle.  
The diameter of the semi-circle is 15 cm.

Calculate the area of the semi-circle.  
Give your answer correct to 3 significant figures.

............................

(Total 3 marks)

**3.** 

A semicircle has a diameter of 20 cm.

Work out the perimeter of the semicircle.  
Take the value of  to be 3.14

.............................. cm

(Total 3 marks)

**4.**



A circle has a radius of 6 cm. A square has a side of length 12 cm.

Work out the difference between the area of the circle and the area of the square.  
Give your answer correct to one decimal place.

...................................... cm2

(Total 4 marks)

**3.** A can of drink is in the shape of a cylinder.  
The can has a radius of 4 cm and a height of 15 cm.

Calculate the volume of the cylinder.  
Give your answer correct to 3 significant figures.

…………………………

(Total 3 marks)

**4.** The diagram shows a cylinder with a height of 10 cm and a radius of 4 cm.

(a) Calculate the volume of the cylinder.  
Give your answer correct to 3 significant figures.

...........................cm3

(2)

The length of a pencil is 13 cm. The pencil cannot be broken.

(b) Show that this pencil cannot fit inside the cylinder.

(3)

(Total 5 marks)

…………….. cm2

(Total 3 marks)

**.** (a) Use your calculator to work out   
Write down all the figures on your calculator display.

......................................

(2)

(b) Write your answer to part (a) correct to 3 significant figures.

......................................

(1)

(Total 3 marks)

**2.** Work out 

(a) Write down all the figures on your calculator display.

.....................................

(2)

(b) Give your answer to part (a) to an appropriate degree of accuracy.

.....................................

(1)

(Total 3 marks)

**3.** (a) Write down the value of 

....................

(1)

(b) Write  in the form , where *k* is an integer.

....................

(1)

(Total 2 marks)

**4.**

(Total 3 marks)

Don’t forget the wikispace!

<http://glynmathsgcse.wikispaces.com/METHODS+Revision>

* Answers to these questions
* Past papers
* Focused revision
* Videos

Video Solutions:

[November 2012 Unit 2 Higher exam paper](http://www.youtube.com/playlist?list=PL6gmFzbX96L1n1zqEgZq9Xca3qTbFk39R)

**Possible Questions (From the Linear Paper 2)**

